

MARITIME HERITAGE MINNESOTA

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Minnesota Suburban Lakes Survey Project: Lake Johanna Survey Report



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Acknowledgments

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Front Cover: MNHS MR2.9Ahp20, 1890; MNHS HV1.41p7, 1925. Digitized by MHM.

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Introduction

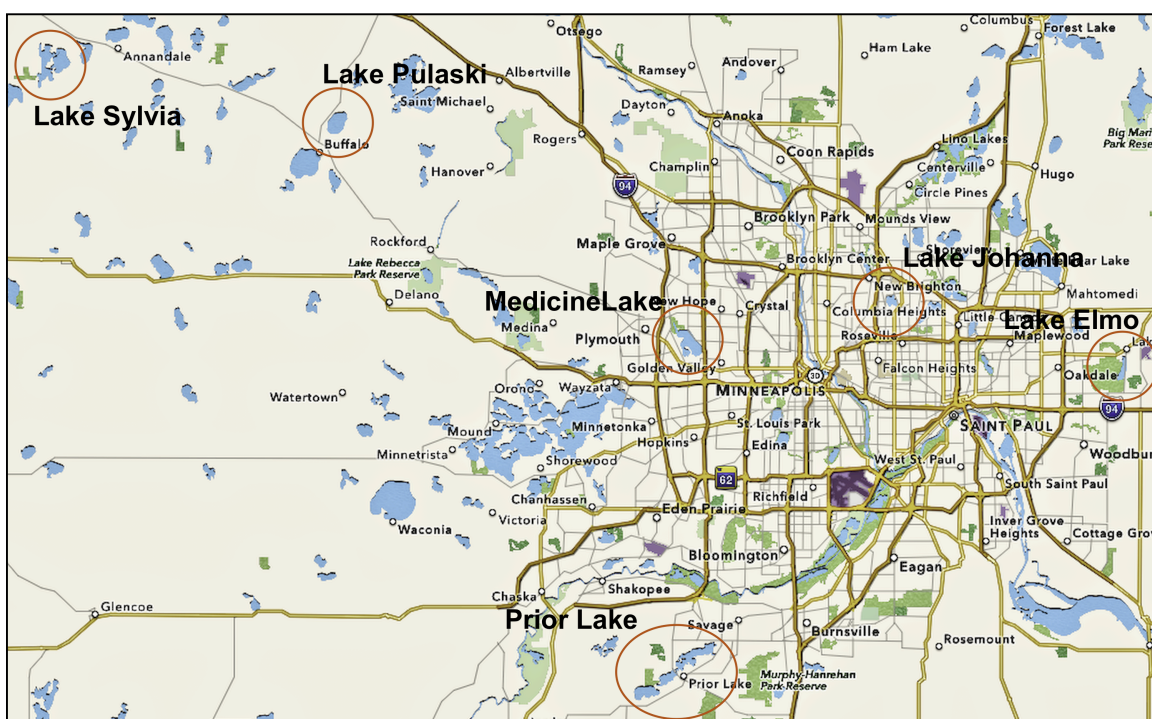
Wrecks and the artifacts associated with them tell a story. Removing or otherwise disturbing artifacts, treating them as commodities that can be sold, obliterates that story. Nautical archaeological and maritime sites are finite, and are significant submerged cultural resources. Nautical, maritime, underwater, maritime terrestrial – Maritime Heritage Minnesota's (MHM) deals with all of these types of sites throughout the State of Minnesota. MHM's Mission is to document, conserve, preserve, and when necessary, excavate these finite cultural resources where the welfare of the artifact is paramount. MHM is concerned with protecting our underwater and maritime sites – our shared Maritime History – for their own benefit in order for all Minnesotans to gain the knowledge that can be obtained through their study. MHM's study of wrecks does not include the removal of artifacts or damaging the sites in any way. MHM does not raise wrecks or 'hunt' for 'treasure'. Submerged archaeological sites in Minnesota are subject to the same State statutes as terrestrial sites: the Minnesota Field Archaeology Act (1963), Minnesota Historic Sites Act (1965), the Minnesota Historic District Act (1971), and the Minnesota Private Cemeteries Act (1976) if human remains are associated with a submerged site. Further, the case of *State v. Bollenbach* (1954) and the Federal Abandoned Shipwrecks Act of 1987 provide additional jurisdictional considerations when determining State oversight and "ownership" of resources defined by law as archaeological sites (Marken, Ollendorf, Nunnally, and Anfinson 1997, 3-4). Therefore, just like terrestrial archaeologists working for the State or with contract firms, underwater archaeologists are required to have the necessary education, appropriate credentials, and hold valid licenses from the Office of the State Archaeologist (OSA).



MHM's dive crew preparing to dive on an anomaly in Lake Minnetonka (by Mark Slick)

Preface

MHM completed remote sensing side and down imaging surveys of sections of the Headwaters Mississippi River and the Minnesota River in 2010 and 2011. MHM completed the first comprehensive sonar surveys of any Minnesota lake in 2011-2012 with the thorough investigations of Lake Minnetonka (14,528 acres), White Bear Lake (2,416 acres), and Lake Waconia (3,080 acres). The study – that is still ongoing – of these three larger lakes provided MHM the opportunity to hone the research methods and data interpretation that allowed the completion of 6 different archaeological analyses during the Minnesota Suburban Lakes Survey Project (MSLS). Lake Elmo (LE, 206 acres), Lake Johanna (LJ, 213 acres), Lake Pulaski (LP, 702 acres), Lake Sylvia (LS, 1,524 acres), Medicine Lake (ML, 886 acres), and Upper and Lower Prior Lake (PL, 1,238 acres) were chosen for study, and the fieldwork was conducted from mid-September to early October 2016. MHM prepared six project reports, one for each lake documented using sonar.

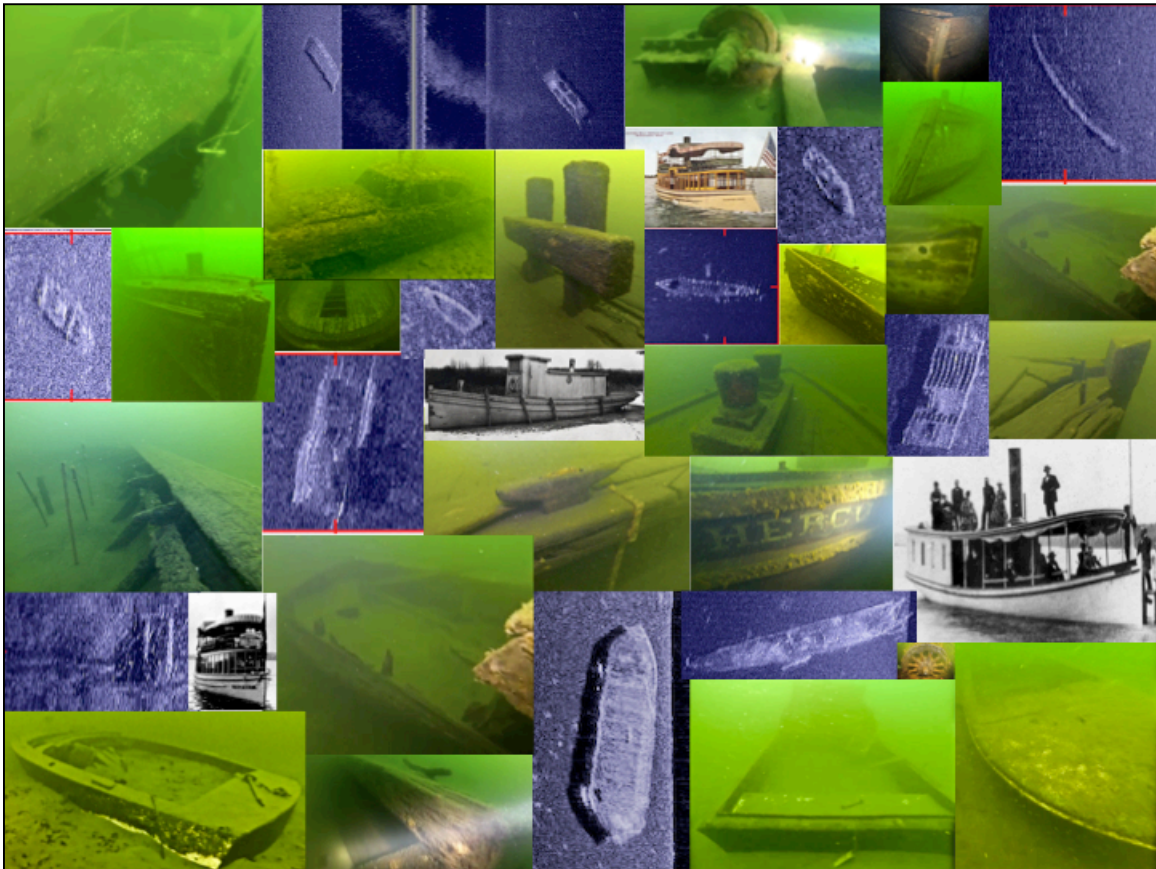


The locations of the 6 lakes surveyed during the MSLS Project.

Research Design

The MSLS Project is a pre-disturbance Phase 1 underwater archaeological side and down imaging sonar survey of 6 lakes (mentioned above) in 5 counties – Hennepin, Ramsey, Scott, Washington, and Wright. This project is a primary step toward the identification and documentation of submerged cultural resources in Minnesota. MHM

chose the six lakes mentioned above for the MSLS Project. The purpose of the MSLS Project is to increase the collective maritime archaeological and historical knowledge of Minnesotans through the documentation of the 6 suburban lakes. The specific goal of sonar survey is the recording of anomalies on the lake bottoms and identifying their possible natures. The side and down-imaging sonar unit creates high-resolution digital images; the sonar data accumulated during the fieldwork will be reviewed and analyzed with the intention of identifying anomalies that may be human-made sites such as wrecks (dugout canoes, steamers, sailboats, rowboats, canoes, barges, motorboats), maritime infrastructure (pier/dock remains, water intakes), other maritime-related artifacts (steam boilers, fish houses), vehicles (cars, trucks, snowmobiles), and other objects. In the future, the positive identification – and significance – of the anomalies will be confirmed through underwater archaeological reconnaissance fieldwork using SCUBA, digital video, measured drawings, and maritime historical research. The 6 lakes chosen for evaluation and assessment during the MSLS Project were chosen for the MSLS Project because of their size, location, and the confirmed maritime activities occurring on and around them, determined by graphic and preliminary historical research.

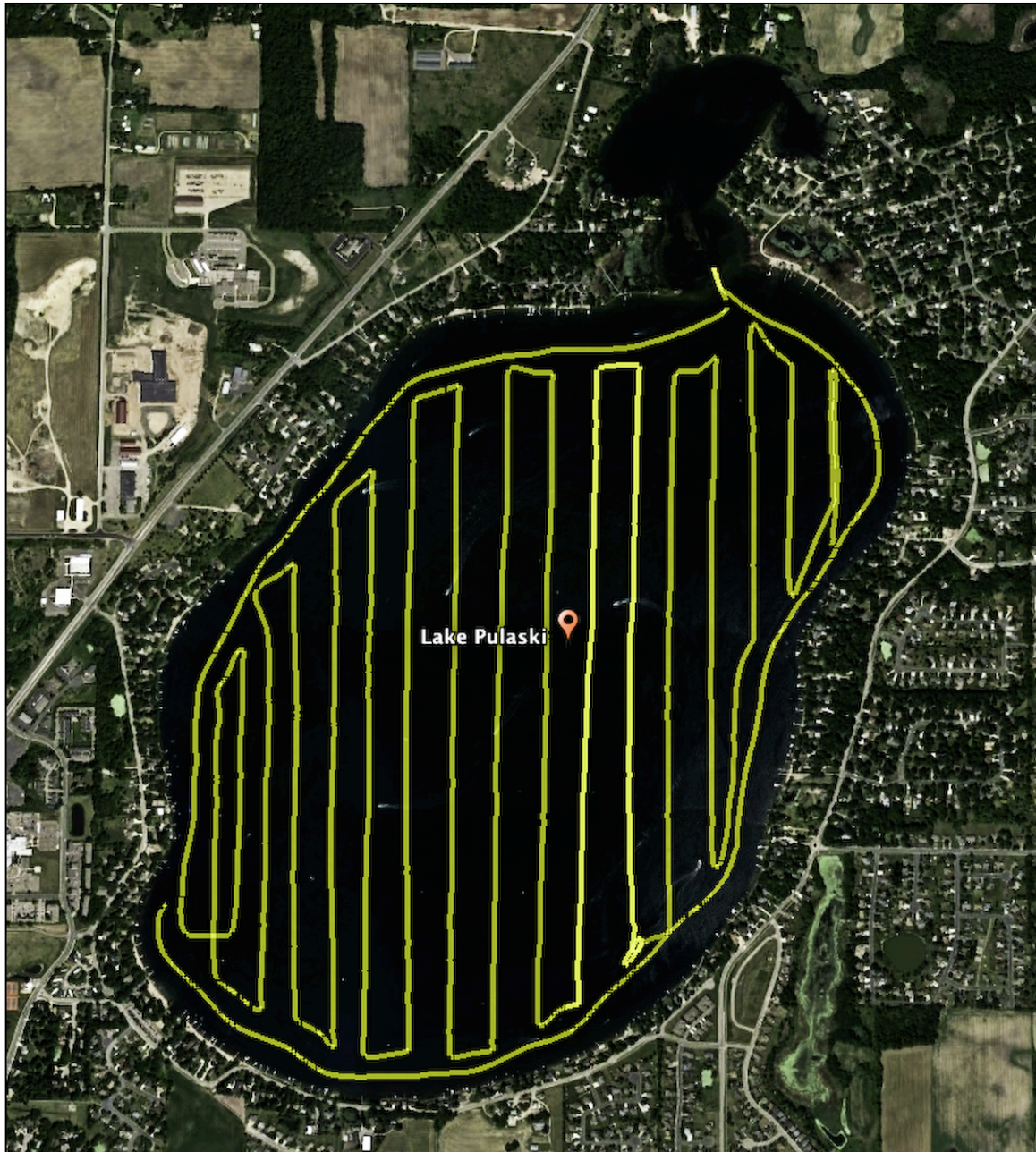


A sampling of nautical archaeological and underwater sites MHM has investigated and identified in Lake Minnetonka. Similar wrecks may be recorded by the sonar unit during the MSLS Project (photos by MHM volunteers Kelly Nehowig, Ed Nelson, and Mark Slick; sonar images recorded by MHM).

The combined area of the 6 lakes is 4,769 acres. All of the project lakes are under 1,600 acres, with 4 of them under 900 acres and 2 of them under 300 acres. The size of the target lakes for the MSLS Project is significant because until now, no nautical, maritime, or underwater archaeological or historical research has been conducted in what is considered a 'smaller' lake in Minnesota. MHM chose these particular smaller lakes because, like Lake Minnetonka, Lake Waconia, and White Bear Lake, they are located outside of the Twin Cities proper, but are suburban and close enough to Minneapolis and St. Paul for day or weekend trips by lake-bound Minnesotans even in the late 19th Century. Historically, these lakes had holiday resorts on their shores that allowed local residents and visitors to use them as vacation destinations. The resorts often had fleets of sailing and rowing boats for use by their guests, and in some cases, steam launches, larger boats, and personal motorboats. Furthermore, local residents used these lakes for efficient daily transportation. Therefore, maritime activities – boat transportation and recreation that required maritime infrastructure and a terrestrial transportation system (horses, streetcars, railroads, roads, cars) to function – are comparable to Lakes Minnetonka, Waconia, and White Bear on a smaller scale. The MSLS Project will be the first systematic and comprehensive remote sensing survey of a group of smaller suburban lakes that share traits with the well-known larger suburban lakes already surveyed. With this in mind, the process of recording, locating, and identifying anomalies that may be submerged cultural resources that will ultimately be investigated archaeologically using SCUBA is even more important – the maritime history and nautical/maritime/underwater archaeology of these 6 lakes are unknowns. The data collected during the MSLS Project is the first step in the process to determine the extent of submerged cultural resources located on the bottoms of these 6 suburban lakes.

Methodology

A side and down imaging remote sensing sonar survey conducted on a lake is akin to 'mowing the lawn' – transects are run either north/south or east/west depending on wind conditions, lake traffic, and the placement of obstructions such as islands, sandbars, shallow areas, docks, and piers. The length and duration of each transect cannot be known until the day of the survey and is dependent on water depth, and the presence of weeds, islands, docks, and other boats. Ideally, each transect runs north/south or east/west for orderly data analysis, but diagonal transects are often required because lakes are usually not large open squares. The GPS data received by the sonar unit's antenna is imbedded in the recording produced of each transect; this feature allows accurate and efficient anomaly location by determining its latitude and longitude. Many anomalies remain unidentified until their nature can be determined by dive reconnaissance. However, the basic nature of some anomalies can be determined by sonar data analysis with specific questions about the site or object answered using dive reconnaissance.

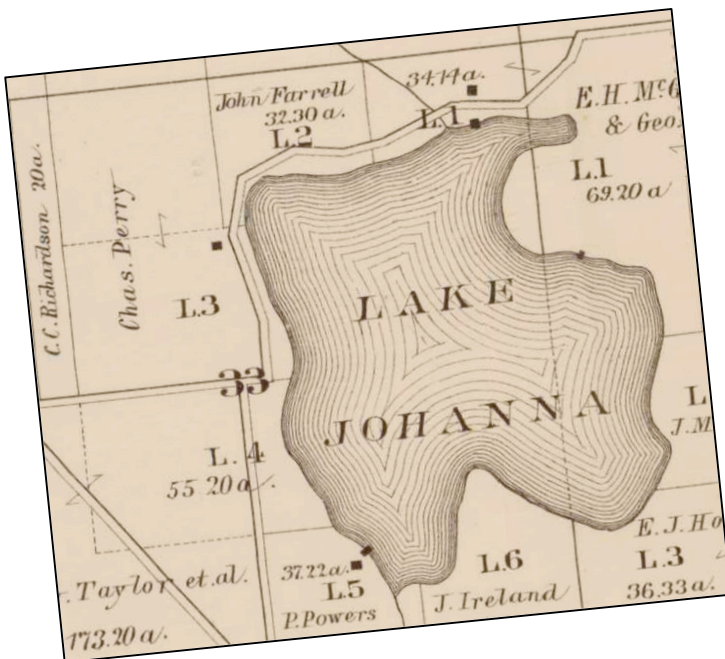


'Mowing the Lawn' at Lake Pulaski in 2016. Similar side and down imaging sonar survey transects were run on Prior Lake, Lake Elmo, Lake Johanna, Medicine Lake, and Lake Sylvia.

Results of the Minnesota Suburban Lakes Project Lake Johanna

Archaeology and History

Lake Johanna is located in Arden Hills, a suburb of St. Paul in Ramsey County with an additional 4 lakes within its border: Lakes Josephine, Valentine, Round, and Sunfish. The OSA has not recognized any archaeological sites on the shores of Lake Johanna. However, to the east at Lake Wabasso in Shoreview, shovel testing at the NLONG 1 site (21-RA-74) produced artifacts dating to the Middle or Late Woodland Period. The assemblage, probably the remains of a campsite, consisted of “a piece of quartz shatter, a chert primary flake, and a small thin-walled, grit tempered pottery sherd.” To the northwest of Lake Johanna, a survey near the southeast shoreline of Long Lake in New Brighton produced two lithic flakes; no cultural determination was assigned to the artifacts. European settlement at Lake Johanna began around 1849 after Charles Perret¹ sold 160 acres he owned at Lake Como; he contended his “neighbors were becoming too thick and interfered with his cattle raising”. Lake Johanna was platted in 1848 and Perret purchased large portions of land on the northwest end of the lake. Initially Lake Johanna was part of Mounds View Township, established in 1858. Joseph M. Hackey, a wealthy Minnesota State Senator², established Arden Farms that gave its name to the Village of Arden Hills, incorporated in 1951 (Hopkins 1886, Plate 17; League of Women Voters 1954, 4-5; Nienow 2015; Peterson 1986; *St. Paul Globe* 1904; Upham 1920, 437).



An 1886 plat map of Lake Johanna showing the large section of land owned by Charles Perret/Perry on the northeast corner of lake (Hopkins 1886, Pl. 17).

¹Perret was also known as 'Perry' and his name was sometimes spelled 'Perrot'.

²Hackey gained some of his wealth and a land speculator; he partnered in the Hackney-Boynton Land Company, a firm incorporated to sell 1.25 million acres in North Dakota previously owned by the Northern Pacific Railway (*St. Paul Globe* 1901).

Hotel and Resort. Most of Mounds View Township remained as farmland well into the 20th Century; however, the shores of Lake Johanna supported a summer picnic, resort, and cottage economy. By 1875 Lake Johanna had a hotel managed by “Patrick Powers, the well known fisherman and hotel proprietor”. In 1898 the Perret family – now known as Perry – established Perry Beach³ for swimming and water sliding, and the Perry Boat Rental and Picnic Grounds on Lake Johanna. At their resort, the Perrys also offered dancing in their pavilion and popcorn fritters – a favorite of visitors that were also sold at Twin Cities vaudeville and opera theaters. William Perry gained ownership of the family resort upon the death of his father Charles in 1904. Escaping to Lake Johanna for July 4th celebrations was sometimes newsworthy, as the Isaac Cheney and A. H. Bode families attended Independence Day festivities there in 1889 (*Grange Advance* 1875; Klonecz 2002, 35-36, 144; League of Women Voters 1954, 5; *St. Paul Daily Globe* 1879, 1889).



Swimming at the docks at Perry Beach. The man in the tie is Charles Perry (courtesy of the New Brighton Historical Society, NBAHS #07.45; Klonecz 2002, 35).

Boating and Fishing. Lake Johanna was known as a fishing destination throughout the latter half of the 19th Century and into the 20th Century. One ‘fish story’ made the papers when John McDermott joined hotelier Patrick Powers “at that beautiful watering place” – Lake Johanna. The men fell out of their boat in 26 feet of water and numerous other rowboats hurried to their rescue, characterized as “the scene of the disaster”. McDermott and Powers had difficulties once in the water, sinking twice before “a dozen willing hands seized their scalp locks and held on to them, pulling them to the surface”. Apparently Powers and McDermott clung to each other and with his one free hand, McDermott “kept [a] firm grip on a fine four pound pickerel...notwithstanding his semi-unconscious condition. All parties were safely landed including the pickerel”. Another mishap “occurred in a boat at Lake Johanna” when a 12 year old girl (the daughter of J. W. Flue) was shot in her right leg after the “accidental discharge of a rifle”. Whether the boat sank due to the rifle shot is unknown – for now. Great fishing was reported in 1901

³Perry Beach is now part of Tony Schmidt Regional Park.

at Lake Johanna, described as “some of the best fishing of this season”. The lake was described as “small, but [it] is fed by ice-cold springs and fish have been in fine fettle the whole season through. Enormous catches of fine crappies have been noted from time to time” but it was reported that Minneapolis city worker W. E. Race caught 7 large bass and 3 big pike, as well as breaking his fishing line attempting to land 2 other heavy bass. His fishing boat was anchored in 40 feet of water and his bait was comprised of frogs (*Grange Advance* 1875; *St. Paul Daily Globe* 1893, 1901).



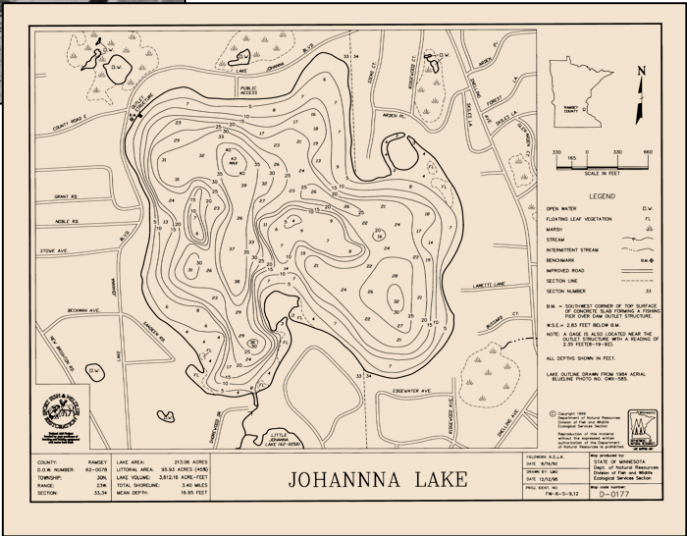
Left: Boating on Lake Johanna in 1925 (MNHS HV1.4r1, digitized by MHM).

Right: Motor and rowboats on Lake Johanna (courtesy of the New Brighton Historical Society, NBAHS #04.11; Kloncz 2002, 36).



Above: The *Petrel V* motorboat on Lake Johanna in 1925 (MNHS HV1.41p8, digitized by MHM).

Right: A map of Lake Johanna showing water depth. MHM’s transects ran from east to west during the sonar survey (Department of Natural Resources 1999).

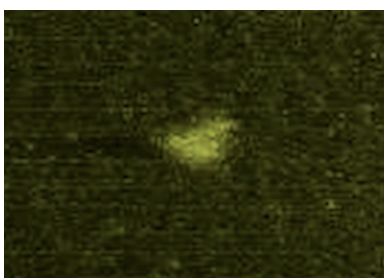


Lake Johanna Sonar Survey Results

MHM has identified 18 anomalies in the sonar footage recorded during the remote sensing survey of Lake Johanna. MHM has determined that the acoustical signature of 1 anomaly indicates it is a wreck (A10) and 1 is a probable wreck (A11). Anomalies 7 and 18 are significant to Minnesota maritime and underwater archaeology, maritime history, and fishing history. They may be the remains of two poke nets. Poke nets hang on poles under water and snag fish, and are well known in Scotland where they are placed in tidal zones. The Department of Natural Resources has used seines for decades to catch fish for various reasons. Anomaly 18 is 348 feet long and collapsed, while A7 is comprised of a pole with ropes attached to it. It is unknown who erected A7 and A18 without further research.⁴ The anomalies below are in random order and the potential to provide significant nautical archaeological data are prioritized as High (1), Medium (2), or Low (3). These numbers will assist MHM when designing future nautical archaeological reconnaissance projects using SCUBA.



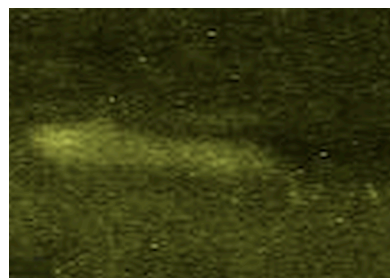
LJ-A1 (2)



LJ-A2 (1)



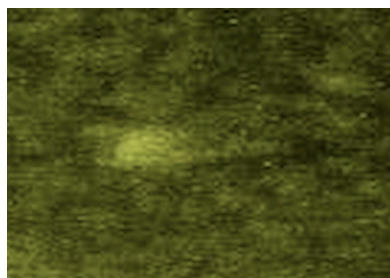
LJ-A3 (2)



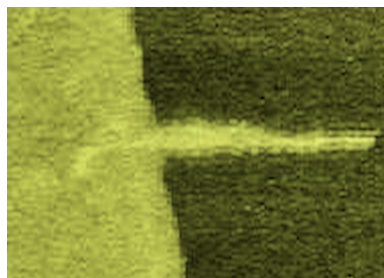
LJ-A4 (3)



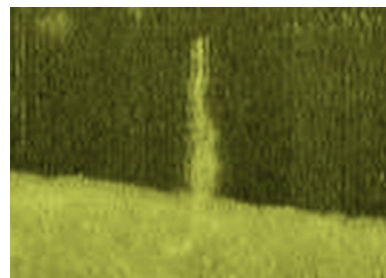
LJ-A5 (3)



LJ-A6 (2)



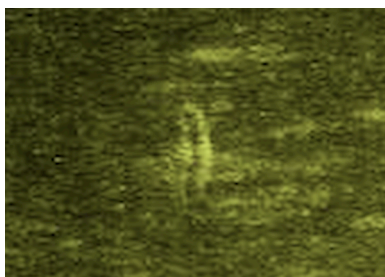
LJ-A7 – Poke Net Support (1)



⁴Prior Lake, Lake Sylvia, and Medicine Lake also contain poke nets.



LJ-A8 (3)



LJ-A9 (1)



LJ-A10 – Wreck (1)



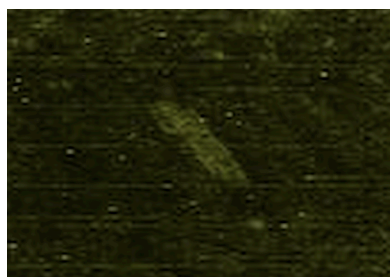
LJ-A11 – Probable Wreck (1)



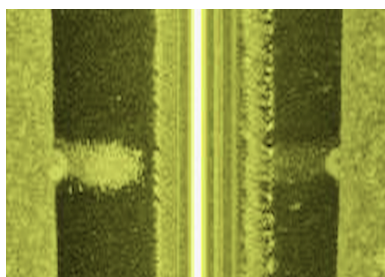
LJ-A12 (2)



LJ-A13 (3)



LJ-A14 (1)



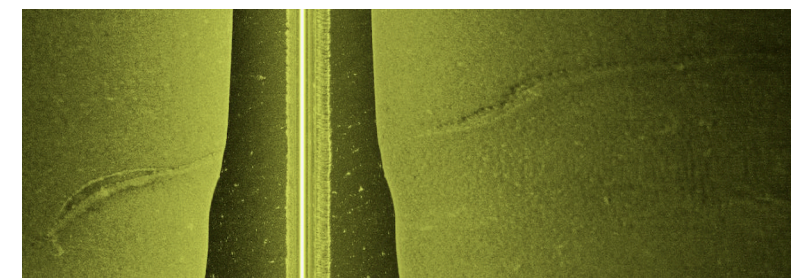
LJ-A15 (1)



LJ-A16 (1)



LJ-A17 (3)



LJ-A18 – Collapsed Poke Net (1)



A poke net for tidal salmon fishing in Scotland.

Conclusion

During the Lake Johanna Sonar Survey, MHM recorded several interesting and promising anomalies using remote sensing side and down-imaging sonar. Of the 18 anomalies, A10, A11, and A18 will produce the greatest amount of archaeological data. Additionally, while A7 appears to be a mast and sail or rigging, it also may be attached to a sailboat wreck that is partially or completely buried. The MSLS Project produced interesting and significant results; MHM recognized 253 anomalies on the bottom of the 6 lakes documented during the surveys. Particularly important is the identification of 13 wrecks through their distinctive sonar signatures, another 22 possible wrecks, 6 poke nets, 5 boat lifts/canopies, and many other maritime sites. The exact nature of the wrecks and other sites will be determined during subsequent projects centered on their investigation by nautical archaeologists using SCUBA. These future studies will greatly enhance our shared maritime history through the recognition of submerged cultural resources and the stories behind their construction and disposition on the bottom of these particular 6 Minnesota lakes. The diversity of nautical, maritime, and underwater sites so far identified by MHM in Minnesota's lakes are tangible examples of the rich maritime history of the area. Through research, diving on wrecks and anomalies to collect pertinent data, and ensuring that the collected information is accessible by the public, MHM will continue to investigate Minnesota's submerged cultural resources into the future. The results of the MSLS Project summarized above is connected to all the work that will come after its completion. It is clear – even through this Phase 1 remote sensing survey – that the types of sites that exist in the 6 small lakes documented during the project are diverse, archaeologically and historically significant, and worthy of great attention.

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